

**Centre for Quantum Photonics  
University of Bristol**

Lead Investigator: *Jeremy O'Brien*

Current Team Members:

*Prof. J. Rarity, Prof. S. Yu, Dr M. Cryan,  
Dr M. Thompson, Dr. R. Oulton*

*8 Postdocs, 16 Graduate Students*

**CAPABILITIES**

Optical quantum computing.

Integrated quantum photonics:  
combining state of the art  
photonics with quantum  
information science.

Design, fabrication and  
characterization of integrated  
quantum circuits: first  
demonstrations of all-optical  
fibre and waveguide quantum  
logic gates; on-chip  
manipulation of multi-photon  
entangled states.

Related expertise in single  
photon sources and light-matter  
interactions.

**CAPABILITIES SOUGHT**

Efficient photon sources

Efficient photon detectors

Number resolving detectors

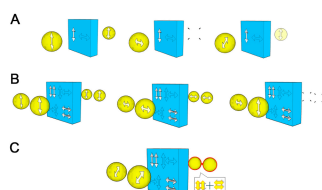
**Member of QCCM for  
optical quantum computing  
2006-2009**

**PI: Paul Kwiat**

**RESEARCH AREAS OF INTEREST**

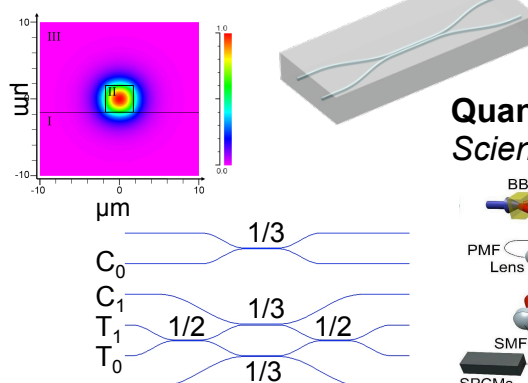
**Entanglement filter**

*Science* **323** 483 (2009)



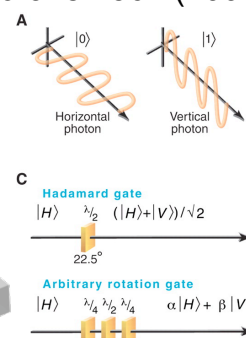
**Integrated waveguide QIP**

*Science* **320** 646 (2008)



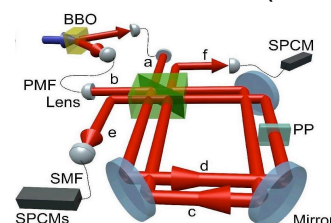
**Optical quantum  
computing**

*Science* **318** 1567 (2007)



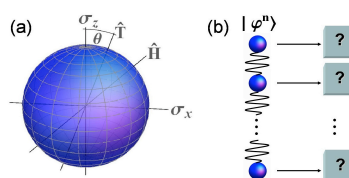
**Quantum Metrology**

*Science* **316** 726 (2007)



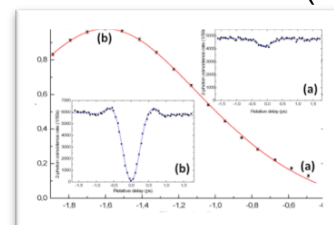
**Experimental Quantum  
Process discrimination**

*PRL* **102** 1650502 (2009)



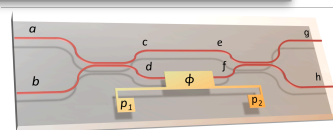
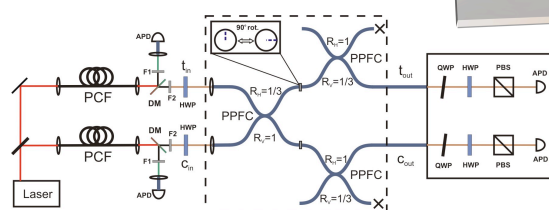
**Reconfigurable  
Quantum Circuits**

*Nature Photon* **3** 346 (2009)



**All-fibre QIP**

*PRA* **79** 030303 (2009)



**CONTACT DETAILS**

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